

Chemical Analysis Report

SO-DIST-2017-06-14-01

Florida Department of Environmental Protection
Central Laboratory
2600 Blair Stone Road
Tallahassee, FL 32399-2400
DOH Accreditation E31780

Event Description: **SMP: Florida Keys**
Request ID: **RQ-2017-06-05-10**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 364
Fort Myers, FL 33901
Attn: Ben Paswater

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Certified by: Thekkekalathil Chandrasekhar, Chemist Administrator Date Certified: 10-JUL-2017 14:46



Case Narrative

Unless otherwise noted, all samples included in this report were received in accordance with protocols referenced in Chapter 62-160, Florida Administrative Code (F.A.C.). Results published in this report pertain only to the samples as submitted to, and received by the laboratory. All times in this report are adjusted to the applicable Eastern Time Zone (EST or EDT).

Results for the following analytical groups are included in this report: Metals and Nutrients.

Scientific notation may be used in reporting very large or small values. Values reported using scientific notation will take the form of the following example: 1.3E+03, which is equivalent to 1.3×10^3 or 1300.

Unless otherwise noted, analytical values for soil and sediment samples are reported on a dry weight basis, and analytical values for waste and tissue samples are reported on a wet weight basis.

Results for TNI accredited tests met requirements established by The NELAC Institute. A double asterisk (**) is used to indicate an analyte/matrix/method for which the laboratory is not TNI accredited or where accreditation for that field of testing is not applicable.

Any significant anomalies or deviations from established protocols are documented in Non-Conformance Reports, which, where appropriate, are included within this analytical report. Additional comments related to specific analytical tests may be included as remarks following the analytical results for each sample. Such comments and remarks are for informational purposes only and are not intended to convey judgement about the usability of the reported data.

A quality control report on the performance of the test method for the submitted samples is included. Uncertainty associated with the analytical results contained in this report can be estimated from the reported quality assurance results and from published quality control acceptance limits for each analytical test. Matrix quality control results (matrix spike recoveries and matrix sample precision) pertain only to the matrix sample tested and do not necessarily reflect test method performance for other samples.

Typical matrix quality control (QC) measurements may include matrix spike recovery, matrix spike duplicate recovery, matrix spike precision and matrix sample precision. Not all matrix QC results may be available or reportable; where they are not an explanation is provided. Typical reasons for unavailable QC results include, but are not limited to, a) insufficient matrix sample to perform some or all QC measurements; b) analyte concentration in the sample replicated was too low for a meaningful measurement of precision and c) analyte concentration in the matrix sample spiked was too high (relative to the amount of analyte spiked) for a meaningful measurement of recovery. Where matrix QC results are unavailable, other method performance metrics (e.g., LCS recovery, LCS precision, surrogate recovery) may be used to assess performance of the method. Comments explaining any missing QC measurements are not intended to convey any adverse conclusions about the quality of the reported data.

Precision is reported as relative percent difference unless otherwise noted.

Quality Control codes as defined below may be used in this report to indicate results that are associated with one or more quality control elements which did not fall within established test method criteria. Such results may be qualified as estimates using a J qualifier as required by 62-160 F.A.C. Explanations are included in the report for any results that were reported as estimates for other reasons.

QC Codes used in this report may include:

- LCS – Recovery for the batch Laboratory Control Sample (LCS) was outside existing control limits;
- MS – Recovery for the batch matrix spike (MS) was outside existing control limits;
- CCV – Recovery for a continuing calibration verification (CCV) standard was outside existing control limits;
- SUR – Recovery of a surrogate (SUR) for associated analytes was outside existing control limits;
- RPD – The precision, measured as relative percent difference (RPD), of batch replicate measurements was outside existing control limits;
- RSD – The precision, measured as relative standard deviation (RSD), of batch replicate measurements was outside existing control limits;
- SMP – Sample - used precision derived from replicate analyses of a sample;

The following data qualifiers are used, where applicable, in this report as specified in 62-160 F.A.C.

- A - Value reported is the mean of two or more determinations.
- B - Results based on colony counts outside the acceptable range.
- I - The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
- J - Estimated value and/or the analysis did not meet established quality control criteria.
- K - Actual value is known to be less than value given.
- L - Actual value is known to be greater than value given.
- N - Presumptive evidence of presence of material.
- O - Sampled, but analysis lost or not performed.
- Q - Sample held beyond normal holding time.
- T - Value reported is less than the criterion of detection.
- U - Material was analyzed for but not detected. The reported value is the method detection limit for the sample analyzed.
- V - Analyte was detected in both sample and method blank.
- X - Too few individuals to calculate SCI value.
- Y - The laboratory analysis was from an unpreserved or improperly preserved sample. The data may not be accurate.
- Z - Colonies were too numerous to count (TNTC).

Quality control information from overflow laboratories may not be included in this report. Please refer to the associated report from the overflow laboratory for additional information.

Sample Location: 6012C by Bridge to No Name Key

Collection Date/Time: 06/13/2017 14:40

Field ID: G5SD061317-21

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
1906196	EPA 180.1 Rev. 2.0	Turbidity	0.95		NTU	P326839	
	SM 2320 B-97	Total Alkalinity	109		mg CaCO3/L	P327363	
	SM 2540 D-97	TSS	3	U	mg/L	P327466	
	SM 4500 F-C-97	Fluoride	1.2		mg F/L	P327368	
1906197	EPA 350.1 Rev. 2.0	Ammonia-N	0.016		mg N/L	P326975	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.32	I	mg N/L	P326939	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.009	I	mg N/L	P327107	
	EPA 365.1 Rev. 2.0	Total-P	0.008	I	mg P/L	P326983	
	SM 5310 B-00	Organic Carbon	2.4		mg C/L	P327459	
1906198	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P326828	
1906204	EPA 200.7 Rev. 4.4	Iron	120	U	ug/L	P327055	
	EPA 200.8 Rev. 5.4	Arsenic	1.4	I	ug/L	P327055	
		Cadmium	0.20	U	ug/L	P327055	
		Chromium	1.2	U	ug/L	P327055	
		Copper	2.0	U	ug/L	P327055	
		Lead	0.80	U	ug/L	P327055	
		Nickel	1.0	U	ug/L	P327055	
		Silver	0.10	U	ug/L	P327055	
		Zinc	20	U	ug/L	P327055	

Ref. Method and Comment:

SM 2540 D-97: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report

Method Blank Results

Reference Method: EPA 180.1 Rev. 2.0

Batch ID: P326839

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P327055

Component	Result	Code	Units
Iron	30	U	ug/L

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P327055

Component	Result	Code	Units
Arsenic	0.25	U	ug/L
Cadmium	0.050	U	ug/L
Chromium	0.30	U	ug/L
Copper	0.50	U	ug/L
Lead	0.20	U	ug/L
Nickel	0.25	U	ug/L
Silver	0.025	U	ug/L
Zinc	5.0	U	ug/L

Quality Assurance Report

Method Blank Results

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326975

Component	Result	Code	Units
Ammonia-N	0.002	U	mg N/L

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326939

Component	Result	Code	Units
Kjeldahl Nitrogen	0.080	U	mg N/L

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327107

Component	Result	Code	Units
NO2NO3-N	0.004	U	mg N/L

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326983

Component	Result	Code	Units
Total-P	0.002	U	mg P/L

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326828

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Reference Method: SM 2320 B-97
Batch ID: P327363

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO3/L

Reference Method: SM 2540 D-97
Batch ID: P327466

Component	Result	Code	Units
TSS	3	U	mg/L

Reference Method: SM 4500 F-C-97
Batch ID: P327368

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-00
Batch ID: P327459

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P327055

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Iron	98.4		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327055

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Arsenic	102		P	85 - 115
Cadmium	109		P	85 - 115
Chromium	106		P	85 - 115
Copper	105		P	85 - 115
Lead	104		P	85 - 115
Nickel	106		P	85 - 115
Silver	102		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326975

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	101		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326939

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	91.8		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327107

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326983

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	99.1		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326828

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	97.1		P	90 - 110

Reference Method: SM 2320 B-97
Batch ID: P327363

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	103		P	95 - 108

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: SM 4500 F-C-97
Batch ID: P327368

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	94.6		P	92 - 103

Reference Method: SM 5310 B-00
Batch ID: P327459

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.2		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P327055

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906073	Iron	97.9	98.1	P/P	70 - 130
1906635	Iron	91.4		P	70 - 130

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327055

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906073	Arsenic	98.8	102	P/P	70 - 130
1906073	Cadmium	91.9	96.8	P/P	70 - 130
1906073	Chromium	98.5	98.2	P/P	70 - 130
1906073	Copper	98.7	104	P/P	70 - 130
1906073	Lead	100	105	P/P	70 - 130
1906073	Nickel	99.5	100	P/P	70 - 130
1906073	Silver	94.0	99.6	P/P	70 - 130
1906073	Zinc	89.0	97.2	P/P	70 - 130
1906635	Arsenic	97.5		P	70 - 130
1906635	Cadmium	100		P	70 - 130
1906635	Chromium	101		P	70 - 130
1906635	Copper	91.5		P	70 - 130
1906635	Lead	105		P	70 - 130
1906635	Nickel	93.3		P	70 - 130
1906635	Silver	95.9		P	70 - 130
1906635	Zinc	86.4		P	70 - 130

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326975

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906115	Ammonia-N	101	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326939

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906338	Kjeldahl Nitrogen	93.9	99.2	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327107

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906161	NO2NO3-N	105	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326983

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906339	Total-P	96.7	98.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326828

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906170	O-Phosphate-P	94.2	93.5	P/P	90 - 110

Reference Method: SM 4500 F-C-97
Batch ID: P327368

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906054	Fluoride	97.6	98.9	P/P	91 - 105

Reference Method: SM 5310 B-00
Batch ID: P327459

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
1906192	Organic Carbon	94.4	95.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P326839

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906146	Turbidity	3.02	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P327055

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906073	Iron	0.270	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327055

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906073	Arsenic	2.79	Spike	P	0 - 20
1906073	Cadmium	5.18	Spike	P	0 - 20
1906073	Chromium	0.353	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P327055

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906073	Copper	4.85	Spike	P	0 - 20
1906073	Lead	4.62	Spike	P	0 - 20
1906073	Nickel	0.519	Spike	P	0 - 20
1906073	Silver	5.72	Spike	P	0 - 20
1906073	Zinc	8.72	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P326975

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906115	Ammonia-N	0.552	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P326939

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906338	Kjeldahl Nitrogen	4.75	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P327107

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906161	NO2NO3-N	0.477	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P326983

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906339	Total-P	1.87	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P326828

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906170	O-Phosphate-P	0.712	Spike	P	0 - 20

Reference Method: SM 2320 B-97
Batch ID: P327363

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906054	Total Alkalinity	0.558	Sample	P	0 - 4.8

Quality Assurance Report Precision

Reference Method: SM 4500 F-C-97
Batch ID: P327368

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906054	Fluoride	0.979	Spike	P	0 - 3.0

Reference Method: SM 5310 B-00
Batch ID: P327459

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
1906192	Organic Carbon	0.723	Spike	P	0 - 20

* Sample, spike and/or laboratory control sample precision (LCS) is reported.
Replicate spike precision may be reported when sample results are below quantifiable levels.

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Run ID: A77087
Included Lab Sample IDs: 1906198

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	101	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A77089
Included Lab Sample IDs: 1906196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	99.0	100	P/P	95 - 105

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A77139
Included Lab Sample IDs: 1906197

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	102	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A77173
Included Lab Sample IDs: 1906197

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	101	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A77182
Included Lab Sample IDs: 1906197

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.2	98.5	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A77216

Included Lab Sample IDs: 1906197

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	99.7	95.7	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A77217

Included Lab Sample IDs: 1906204

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Iron	97.8	97.7	P/P	90 - 110

Reference Method: SM 2320 B-97

Run ID: A77288

Included Lab Sample IDs: 1906196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	101	104	P/P	90 - 110

Reference Method: SM 4500 F-C-97

Run ID: A77288

Included Lab Sample IDs: 1906196

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	95.1	96.2	P/P	90 - 110

Reference Method: SM 5310 B-00

Run ID: A77331

Included Lab Sample IDs: 1906197

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	92.9	93.2	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A77444

Included Lab Sample IDs: 1906204

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Arsenic	97.4	97.9	P/P	90 - 110
Cadmium	100	99.6	P/P	90 - 110
Chromium	100	102	P/P	90 - 110
Copper	98.2	99.6	P/P	90 - 110
Lead	101	102	P/P	90 - 110
Nickel	99.6	99.2	P/P	90 - 110
Silver	98.4	98.8	P/P	90 - 110
Zinc	97.6	99.2	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements. Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery			Precision SMP	MS
			LCS				
EPA 180.1 Rev. 2.0	Turbidity					3.02	
EPA 200.7 Rev. 4.4	Iron	98.4	97.9	98.1	91.4		0.270
EPA 200.8 Rev. 5.4	Arsenic	102	98.8	102	97.5		2.79
	Cadmium	109	91.9	96.8	100		5.18
	Chromium	106	98.5	98.2	101		0.353
	Copper	105	98.7	104	91.5		4.85
	Lead	104	100	105	105		4.62
	Nickel	106	99.5	100	93.3		0.519
	Silver	102	94.0	99.6	95.9		5.72
	Zinc	103	89.0	97.2	86.4		8.72
EPA 350.1 Rev. 2.0	Ammonia-N	101	101	102			0.552
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	91.8	93.9	99.2			4.75
EPA 353.2 Rev. 2.0	NO2NO3-N	104	105	104			0.477
EPA 365.1 Rev. 2.0	Total-P	99.1	96.7	98.5			1.87
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	97.1	94.2	93.5			0.712
SM 2320 B-97	Total Alkalinity	103				0.558	
SM 4500 F-C-97	Fluoride	94.6	97.6	98.9			0.979
SM 5310 B-00	Organic Carbon	94.2	94.4	95.4			0.723

Reference Method Descriptions

Method / DoH Cert #	Description	Associated Samples
EPA 180.1 Rev. 2.0 / E31780	Turbidity in aqueous matrices	1906196
EPA 200.7 Rev. 4.4 / E31780	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	1906204
EPA 200.8 Rev. 5.4 / E31780	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	1906204
EPA 350.1 Rev. 2.0 / E31780	Ammonia in aqueous matrices as mg N/L	1906197
EPA 351.2 Rev. 2.0 / E31780	Total Kjeldahl Nitrogen in aqueous matrices	1906197
EPA 353.2 Rev. 2.0 / E31780	Nitrite/Nitrate in aqueous matrices as mg N/L	1906197
EPA 365.1 Rev. 2.0 / E31780	Total Phosphorus in aqueous matrices as mg P/L	1906197
EPA 365.1 Rev. 2.0 dissolved / E31780	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	1906198
SM 2320 B-97 / E31780	Alkalinity in aqueous matrices as mg CaCO3/L	1906196
SM 2540 D-97 / E31780	Total Suspended Solids in aqueous matrices	1906196
SM 4500 F-C-97 / E31780	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	1906196
SM 5310 B-00 / E31780	Nonpurgeable Organic Carbon in aqueous matrices	1906197

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
EPA 180.1 Rev. 2.0	06/14/2017			06/14/2017 16:01	Sima Feizi	1906196
EPA 200.7 Rev. 4.4	06/14/2017	06/19/2017	Elliott D. Healy	06/20/2017	Betina Topolski	1906204
EPA 200.8 Rev. 5.4	06/14/2017	06/19/2017	Elliott D. Healy	06/29/2017	Robert K Palmer	1906204
EPA 350.1 Rev. 2.0	06/14/2017			06/15/2017	Sofia Elnemr	1906197
EPA 351.2 Rev. 2.0	06/14/2017	06/16/2017	Adrian Shelby	06/20/2017	Joseph Suarez	1906197
EPA 353.2 Rev. 2.0	06/14/2017			06/19/2017	Beverly Y. Sanders	1906197
EPA 365.1 Rev. 2.0	06/14/2017	06/16/2017	Vijayalakshmi Reddy	06/19/2017	Lipi Saha	1906197
EPA 365.1 Rev. 2.0 dissolved	06/14/2017			06/14/2017 14:24	Lipi Saha	1906198
SM 2320 B-97	06/14/2017			06/22/2017	Dale L. Simmons	1906196
SM 2540 D-97	06/14/2017			06/16/2017	Yijie Li	1906196
SM 4500 F-C-97	06/14/2017			06/22/2017	Dale L. Simmons	1906196
SM 5310 B-00	06/14/2017			06/25/2017	Sofia Elnemr	1906197